Observatory for Planetary Investigations from the Stratosphere

Completed Technology Project (2013 - 2015)

Project Introduction

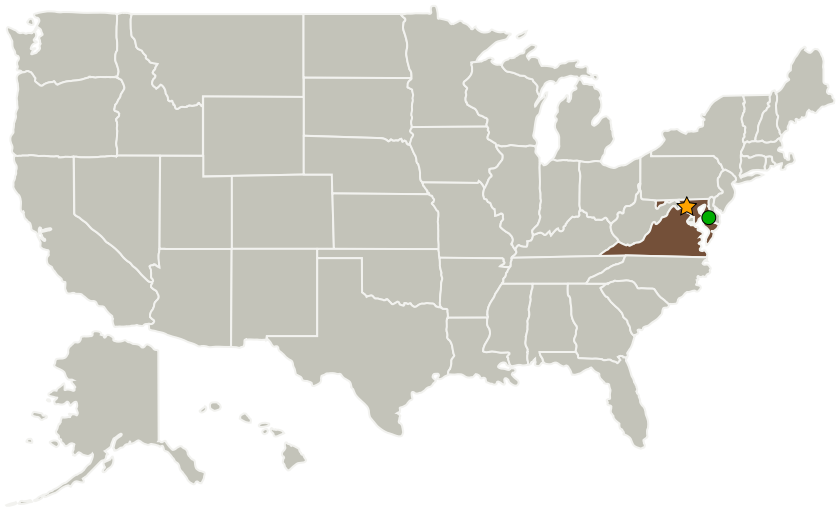
The Observatory for Planetary Investigation from the Stratosphere (OPIS) project demonstrated the ability of the Wallops Arc Second Pointing (WASP) system to provide a stable platform for planetary observations during an October 2014 flight. The OPIS project will refurbish the OPIS imaging system for future use and analyze the results from the test flight. The system will be maintained for use by the planetary community through ROSES funded efforts.

We will build on work being done at Wallops Flight Facility to design a high precision pointing system, known as the Wallops Arc-Second Pointer (WASP) Project, and the FY14 IRAD effort to build, integrate and fly the Observatory for Planetary Investigations from the Stratosphere (OPIS) with the WASP system. This integrated system would be an ideal platform for planetary observations and for rapid testing of instrument designs at low TRL. In an FY12 IRAD, we studied a high-altitude mission concept and in FY14 we built an imaging system (OPIS) to demonstrate the pointing stability of the WASP system.

Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



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Center Independent Research & Development: GSFC IRAD

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Organizations Performing Work	Role	Type	Location
Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Wallops Flight Facility(WFF)	Supporting Organization	NASA Facility	Wallops Island, Virginia

Primary U.S. Work Locations	
Maryland	Virginia

Project Transitions

October 2013: Project Start

October 2015: Closed out

Closeout Summary: The purpose of the Goddard Space Flight Center's Internal Research and Development (IRAD) program is to support new technology development and to address scientific challenges. Each year, Principal Investigators (PIs) submit IRAD proposals and compete for funding for their development projects. Goddard's IRAD program supports eight Lines of Business: Astrophysics; Communications and Navigation; Cross-Cutting Technology and Capabilities; Earth Science; Heliophysics; Planetary Science; Science Small Satellites Technology; and Suborbital Platforms and Range Services. Task progress is evaluated twice a year at the Mid-term IRAD review and the end of the year. When the funding period has ended, the PIs compete again for IRAD funding or seek new sources of development and research funding or agree to external partnerships and collaborations. In some cases, when the development work has reached the appropriate Technology Readiness Level (TRL) level, the product is integrated into an actual NASA mission or used to support other government agencies. The technology may also be licensed out to the industry. The completion of a project does not necessarily indicate that the development work has stopped. The work could potentially continue in the future as a follow-on IRAD; or used in collaboration or partnership with Academia, Industry and other Government Agencies. If you are interested in partnering with NASA, see the TechPort Partnerships documentation available on the TechPort Help tab. http://techport.nasa.gov/help

Project Website:

http://aetd.gsfc.nasa.gov/

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

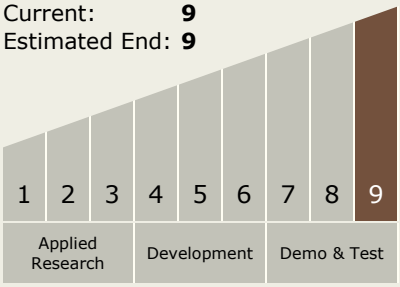
Brook Lakew

Principal Investigator:

Terry A Hurford

Technology Maturity (TRL)

Start: **9**
Current: **9**
Estimated End: **9**



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Technology Areas

Primary:

- TX04 Robotic Systems
  - TX04.2 Mobility
    - TX04.2.4 Surface Mobility